AIT Data Cartridge

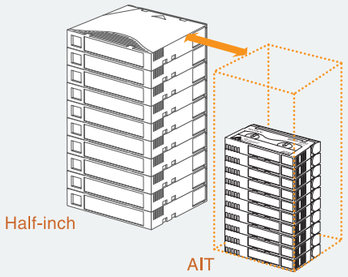
Digital Data Tape Cartridge

Proven Technology : AME & New AME II

In the AIT format Sony has applied advanced technologies refined and proven over many years. Since the format's debut in 1996, AIT has employed AME (Adanced Metal Evaporated) tape, and received high acclaim from data storage professionals for the outstanding reliability of its technology.
AME II, the successor of AME, was developed for AIT-4. AME II enables AIT-4 media's extraordinary areal recording density as well as its high durability. AME II uses a new method for applying the magnetic layer to the tape, an enforced coating layer, and a newly developed lubricant for stable operation.

High capacity, small form factor

Thanks to Sony's technological expertise, AIT achieves extraordinary data densities in a small 8mm cartridge. It's a space-saving solution that's much more compact than other formats of equivalent capacity. For example, the 200GB (native capacity) SDX4-200C cartridge is only 37% the size of a single-reel cartridge of equivalent capacity.



AIT-4 raises capacity to 200GB/520GB

Building on AIT's established technology, Sony raises data density even further in AIT-4 to achieve compressed capacity of 520GB. AIT-4 media's smooth surface improves electromagnetic conversion characteristics, while a newly developed lubricant reduces friction. An enhanced protective coating minimizes wear on heads and the tape itself.

Write-Once Read-Many (WORM) format available

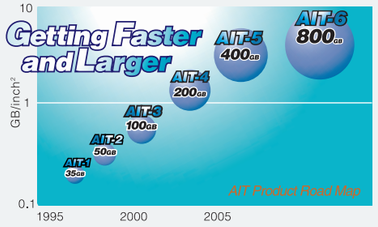
The proven reliability of AIT is also available in a write-once format. WORM (write-once read-many) allows data to be written and added but not overwritten or erased. This protects valuable data against accidental erasure and prevents alteration of archived data files.

R-MIC (Remote Memory In Cassette)

Sony SDX4-200C, SDX4-200W, SDX3-100C, SDX3-100W and SDX2-50W products feature non-contact R-MIC (Remote Memory In Cassette) chip technology. This internal memory can simplify media management and accelerate access in library environments, compared to conventional bar-code methods.

Path to the AIT future

Sony has already achieved areal data density of 11.5Gbpsi in the laboratory. For the AIT format, this translates into 2TB capacity per media package. The AIT format's migration path is built on this kind of ongoing innovation.



For more Information, visit our website at
http://www.sony.co.jp/datamedia

ACG-7323-FRO-0407-P1-005

SONY

Sony Storage Media

AIT (Advanced Intelligent Tape) Data Cartridge
Fourth generation AIT technology packs 520GB (compressed) into a tiny cartridge.

Advanced Intelligent Tape · Advanced Intelligent Tape 2 · Advanced Intelligent Tape 3 · Advanced Intelligent Tape 4 · WORM

Tremendous capacity, tiny form factor, great reliability

One space-saving AIT-4 cartridge holds up to 200GB native, 520GB compressed, and offers a fast data transfer rate of 24MB/s (native). Sony's drive technology and AME tape technology come together in the AIT format to deliver a remarkable combination of high reliability and high recording density.

AIT family offers versatile solutions

Scalable AIT format:
- Compressed capacities from 65GB to 520GB (25GB to 200GB native)
- Write-once read-many solution available

Sony offers a full line of AIT products, widely used by government agencies, the financial industry and others worldwide. Since Sony introduced the format in 1996, AIT has gained a reputation for high reliability and high capacity in a space-saving form factor.

AIT Data Cartridge

Digital Data Tape Cartridge

AIT Lineup

AIT Data Cartridge
SDX4-200C

Native : 200GB
Compressed : 520GB
Data Transfer Rate (Native) : 24MB/s

Advanced Intelligent Tape 4

SDX4-200C	
Format	AIT-4
Magnetic Type	AME Ⅱ
Recording Density	203kbpi
Track Width	4.4µm
Recording Capacity	200GB (*520GB)
Residual Magnetic Flux Density	500mT
Coercive Force	140kA/m
Tape Width	8mm
Tape Thickness	4.8µm
Tape Length	246m

*Compression ratio 2:1

AIT Data Cartridge
SDX3-100C

Native : 100GB
Compressed : 260GB
Data Transfer Rate (Native) : 12MB/s

Advanced Intelligent Tape 3

SDX3-100C	
Format	AIT-3
Magnetic Type	AME
Recording Density	155kbpi
Track Width	5.5µm
Recording Capacity	100GB (*260GB)
Residual Magnetic Flux Density	550mT
Coercive Force	110kA/m
Tape Width	8mm
Tape Thickness	5.3µm
Tape Length	230m

*Compression ratio 2:1

AIT Data Cartridge
SDX2-50C

Advanced Intelligent Tape 2

Native : 50GB Compressed : 130GB
Data Transfer Rate (Native) : 6MB/s

AIT Data Cartridge
SDX2-36C

Native : 36GB Compressed : 93GB
Data Transfer Rate (Native) : 6MB/s

	SDX2-50C	SDX2-36C
Format	AIT-2	
Magnetic Type	AME	
Recording Density	167kbpi	
Track Width	11.0µm	
Recording Capacity	50GB (*130GB)	36GB (*93GB)
Residual Magnetic Flux Density	530mT	
Coercive Force	110kA/m	
Tape Width	8mm	
Tape Thickness	5.3µm	7.0µm
Tape Length	230m	170m

*Compression ratio 2:1

AIT Data Cartridge
SDX1-35C

Advanced Intelligent Tape

Native : 35GB Compressed : 91GB
Data Transfer Rate (Native) : 4MB/s*

AIT Data Cartridge
SDX1-25C

Native : 25GB Compressed : 65GB
Data Transfer Rate (Native) : 4MB/s*

*With SDX-400 series drive.

	SDX1-35C	SDX1-25C
Format	AIT-1	
Magnetic Type	AME	
Recording Density	116kbpi	
Track Width	11.0µm	
Recording Capacity	35GB (*91GB)	25GB (*65GB)
Residual Magnetic Flux Density	500mT	
Coercive Force	105kA/m	
Tape Width	8mm	
Tape Thickness	5.3µm	7.0µm
Tape Length	230m	170m

*Compression ratio 2:1

WORM Format
SDX4-200W

Advanced Intelligent Tape 4

Native : 200GB Compressed : 520GB
Data Transfer Rate (Native) : 24MB/s

Based on the AIT-4/-3/-2 format, this WORM (write-once read-many) system allows data to be written or added, but not overwritten or erased.

*May not be supported by some drives.

WORM Format
SDX3-100W

Advanced Intelligent Tape 3

Native : 100GB Compressed : 260GB
Data Transfer Rate (Native) : 12MB/s

WORM Format
SDX2-50W

Advanced Intelligent Tape 2

Native : 50GB Compressed : 130GB
Data Transfer Rate (Native) : 6MB/s

AIT-4 Cleaning Cartridge
SDX4-CL

Exclusive cleaning cartridge for AIT-4 drives. Automatically senses head conditions to provide an optimized cleaning cycle.

AIT drives have a self-cleaning mechanism, so frequent use of cleaning cartridges is not necessary. Use when the drive's cleaning lamp turns on.

AIT-3/-2/-1 Cleaning Cartridge
SDX1-CL

Cleaning cartridge designed exclusively for the AIT-3/-2/-1 format.

	SDX4-CL	SDX1-CL
Magnetic Type	AIT-4 Cleaning Cartridge	AIT-3/-2/-1 Cleaning Cartridge
Tape Width	8mm	
Tape Thickness	6.1µm	7.5µm
Tape Length	30m	7.5m

Dimensions

External Dimensions (mm) : 95×62.5×15.0
Weight (g) : 79 (with case) : 60 (with case) [SDX4-CL,SDX1-CL]

Environmental Requirements

Operation Conditions (°F(°C);%RH) : 41~113 (5~45);20~80*
Storage Conditions (°F(°C);%RH) : 41~89.6 (5~32);20~60*
Transportation Conditions (°F(°C);%RH) : -40~113 (-40~45);5~80*

*Maximum wet bulb temperature : 79°F(26°C) at no condensation.

Drive/Media Compatibility

Format	Model	AIT-1 Drive		AIT-2 Drive	AIT-3 Drive	AIT-4 Drive
	Recording Capacity	SDX-300 Series	SDX-400 Series	SDX-500 Series	SDX-700 Series	SDX-900 Series
AIT-1 Media	SDX1-25C 25GB(Native), 65GB(Compressed)	Read/Write 3MB/s	Read/Write 4MB/s	Read/Write 4MB/s	Read/Write 8MB/s	Read 12MB/s
	SDX1-35C 35GB(Native), 91GB(Compressed)	Read/Write 3MB/s	Read/Write 4MB/s	Read/Write 4MB/s	Read/Write 8MB/s	Read 12MB/s
AIT-2 Media	SDX2-36C 36GB(Native), 93GB(Compressed)	Reject	Reject	Read/Write 6MB/s	Read/Write 12MB/s	Read 18MB/s
	SDX2-50C 50GB(Native), 130GB(Compressed)	Reject	Reject	Read/Write 6MB/s	Read/Write 12MB/s	Read 18MB/s
AIT-3 Media	SDX3-100C 100GB(Native), 260GB(Compressed)	Reject	Reject	Reject	Read/Write 12MB/s	Read/Write 18MB/s
AIT-4 Media	SDX4-200C 200GB(Native), 520GB(Compressed)	Reject	Reject	Reject	Reject	Read/Write 24MB/s
AIT WORM Media	SDX2-50W 50GB(Native), 130GB(Compressed)	Reject	Reject	Read/Write*1 6MB/s	Read/Write*1 12MB/s	Read/Write*1 18MB/s
	SDX3-100W 100GB(Native), 260GB(Compressed)	Reject	Reject	Reject	Read/Write*1 12MB/s	Read/Write*1 18MB/s
	SDX4-200W 200GB(Native), 520GB(Compressed)	Reject	Reject	Reject	Reject	Read/Write*1 24MB/s

*Transfer rate may vary depending on factors such as type of data and drum rotational speed. *1 May not be supported by some drives.